should be 0.0, e.g., not confident that no fault has occurred. The confidence factor can be utilized in a control system to minimize the effect of an LVDT / RVDT failure.

An exemplary confidence factor is illustrated in a graph shown in Figure 3. As shown in Figure 3, when the Vrms value of the absolute value of DLTST is less than CFHiThresh, then a confidence factor of 1 is assigned. When the Vrms value of the absolute value of DLTST is greater than CFLoThresh, then a confidence factor of 0 is assigned. For Vrms values of the absolute value of DLTST between CFHiThresh and CFLoThresh, a linear relationship between the Vrms value and the confidence factor is provided. Exemplary values of CFHiThresh and CFLoThresh are set forth below.

IN THE CLAIMS

3. (once amended)   A method in accordance with Claim 2 wherein if the absolute value of the difference between a current value of the summed voltage value and the reference value is less than the fault threshold, then generating a confidence factor representing that a fault has occurred.

4. (once amended)   A method in accordance with Claim 3 wherein the freeze threshold value is approximately equal 0.05 Vrms, and wherein the fault threshold value is approximately equal 0.08 Vrms.

6. (once amended)   Apparatus for detecting faults in a transducer including a secondary winding having at least two voltage outputs, said apparatus comprising:

a short term filter for generating a first voltage value representative of a current value of a sum of the secondary winding output voltages; and

a long term filter for generating a second voltage value representative of a non-faulted value of a sum of the secondary winding output voltages, at least one of said long term filter and said short term filter comprising a one pole lag filter; and

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